

We Claim:

1. A film made from an ethylene polymer composition, wherein the composition comprises from about 10 percent (by weight of the total composition) to about 95 percent (by weight of the total composition) of :

- 5 (A) at least one homogeneously branched substantially linear ethylene/ α -olefin interpolymer having:
- (i) a density from about 0.89 grams/cubic centimeter (g/cm^3) to about 0.92 g/cm^3 ,
 - (ii) a molecular weight distribution (M_w/M_n) from
 - 10 about 1.8 to about 2.8,
 - (iii) a melt index (I_2) from about 0.001 grams/10 minutes ($\text{g}/10 \text{ min}$) to about 10 $\text{g}/10 \text{ min}$,
 - (iv) no linear polymer fraction, and
 - (v) a single melting peak as measured using
 - 15 differential scanning calorimetry; and

(B) from about 5 percent (by weight of the total composition) to about 90 percent (by weight of the total composition) of at least one heterogeneously branched ethylene polymer having a density from about 0.93 g/cm^3 to about 0.965 g/cm^3 .

20

2. The film of claim 1 wherein the homogeneously branched substantially linear ethylene/ α -olefin interpolymer has a slope of strain hardening coefficient greater than or equal to about 1.3.

25

3. The film of claim 1 wherein the heterogeneously branched ethylene polymer is an interpolymer of ethylene with at least one C_3 - C_{20} α -olefin.

30

4. The film of claim 1 wherein the homogeneously branched substantially linear ethylene/ α -olefin interpolymer is an interpolymer of ethylene with at least one C_3 - C_{20} α -olefin.

5. The film of claim 1 wherein the homogeneously branched substantially linear ethylene/ α -olefin interpolmer is a copolymer of ethylene and a C₃-C₂₀ α -olefin.

5 6. The film of claim 5 wherein the homogeneously branched substantially linear ethylene/ α -olefin copolymer is a copolymer of ethylene and 1-octene

10 7. The film of claim 3 wherein the heterogeneously branched ethylene polymer is a copolymer of ethylene and a C₃-C₂₀ α -olefin.

15 8. The film of claim 7 wherein the heterogeneously branched ethylene polymer is a copolymer of ethylene and 1-octene.

Sub B³ >
9. A film made from an ethylene polymer composition, wherein the composition comprises from about 10 percent (by weight of the total composition) to about 95 percent (by weight of the total composition) of :

20 (A) at least one homogeneously branched linear ethylene/ α -olefin interpolmer having:

(i) a density from about 0.89 grams/cubic centimeter (g/cm³) to about 0.92 g/cm³,

25 (ii) a molecular weight distribution (M_w/M_n) from about 1.8 to about 2.8,

(iii) a melt index (I₂) from about 0.001 grams/10 minutes (g/10 min) to about 10 g/10 min,

(iv) no linear polymer fraction, and
30 (v) a single melting peak as measured using differential scanning calorimetry; and

(B) from about 5 percent (by weight of the total composition) to about 90 percent (by weight of the total composition) of at least one heterogeneously branched ethylene polymer having a density from about 0.93 g/cm³ to about 0.965 g/cm³.

Sub
B3
cont'd

10. The film of claim 9 wherein the ~~homogeneously~~
branched linear ethylene polymer has a slope of strain hardening
coefficient greater than or equal to about 1.3.

5

11. The film of claim 9 wherein the heterogeneously
branched ethylene polymer is an interpolymer of ethylene with at least
one C₃-C₂₀ α -olefin.

10

12. The film of claim 9 wherein the homogeneously
branched linear ethylene/ α -olefin interpolymer is an interpolymer of
ethylene with at least one C₃-C₂₀ α -olefin.

15

13. The film of claim 9 wherein the homogeneously
branched linear ethylene/ α -olefin interpolymer is a copolymer of
ethylene and a C₃-C₂₀ α -olefin.

20

14. The film of claim 13 wherein the homogeneously
branched linear ethylene/ α -olefin copolymer is a copolymer of ethylene
and 1-octene.

25

15. The film of claim 11 wherein the heterogeneously
branched ethylene polymer is a copolymer of ethylene and a C₃-C₂₀ α -
olefin.

30

16. The film of claim 15 wherein the heterogeneously
branched ethylene polymer is a copolymer of ethylene and 1-octene.

17. In a composition comprising at least one
homogeneously branched ethylene/ α -olefin interpolymer and at least
one heterogeneously branched ethylene/ α -olefin interpolymer, the
improvement comprising incorporating into the composition from
about 10 percent (by weight of the total composition) to about 95 percent

(by weight of the total composition) of at least one homogeneously branched substantially linear ethylene/ α -olefin interpolymer having:

(i) a density from about 0.89 grams/cubic centimeter (g/cm³) to about 0.92 g/cm³,

5 (ii) a molecular weight distribution (M_w/M_n) from about 1.8 to about 2.8,

(iii) a melt index (I_2) from about 0.001 grams/10 minutes (g/10 min) to about 10 g/10 min,

(iv) no linear polymer fraction, and

10 (v) a single melting peak as measured using differential scanning calorimetry.

18. The improvement of claim 17 wherein the homogeneously branched substantially linear ethylene/ α -olefin interpolymer has a slope of strain hardening coefficient greater than or equal to about 1.3.

19. The improvement of claim 17 wherein the homogeneously branched substantially linear ethylene/ α -olefin interpolymer is an interpolymer of ethylene with at least one C₃-C₂₀ α -olefin.

20. The improvement of claim 17 wherein the homogeneously branched substantially linear ethylene/ α -olefin interpolymer is a copolymer of ethylene and a C₃-C₂₀ α -olefin.

21. The improvement of claim 20 wherein the homogeneously branched substantially linear ethylene/ α -olefin interpolymer is a copolymer of ethylene and 1-octene.

22. The improvement of claim 17 wherein the heterogeneously branched ethylene polymer is a copolymer of ethylene and a C₃-C₂₀ α -olefin.

23. The improvement of claim 22 wherein the heterogeneously branched ethylene polymer is a copolymer of ethylene and 1-octene.

Sub B4 5
24. In a composition comprising at least one homogeneously branched ethylene/ α -olefin interpolymer and at least one heterogeneously branched ethylene/ α -olefin interpolymer, the improvement comprising incorporating into the composition from about 10 percent (by weight of the total composition) to about 95 percent (by weight of the total composition) of at least one homogeneously branched linear ethylene/ α -olefin interpolymer having:

- 10 (i) a density from about 0.89 grams/cubic centimeter (g/cm³) to about 0.92 g/cm³,
15 (ii) a molecular weight distribution (M_w/M_n) from about 1.8 to about 2.8,
(iii) a melt index (I_2) from about 0.001 grams/10 minutes (g/10 min) to about 10 g/10 min,
(iv) no linear polymer fraction, and
20 (v) a single melting peak as measured using differential scanning calorimetry.

25 25. The improvement of claim 24 wherein the homogeneously branched linear ethylene/ α -olefin interpolymer has a slope of strain hardening coefficient greater than or equal to about 1.3.

26. The improvement of claim 24 wherein the homogeneously branched linear ethylene/ α -olefin interpolymer is an interpolymer of ethylene with at least one C₃-C₂₀ α -olefin.

30 27. The improvement of claim 24 wherein the homogeneously branched linear ethylene/ α -olefin interpolymer is a copolymer of ethylene and a C₃-C₂₀ α -olefin.

08834050-041197
26 F40-0504E880

Sub
B4
Cont'd

28. The improvement of claim 27 wherein the homogeneously branched linear ethylene/ α -olefin interpolymer is a copolymer of ethylene and 1-octene.

5

29. The improvement of claim 24 wherein the heterogeneously branched ethylene polymer is a copolymer of ethylene and a C₃-C₂₀ α -olefin.

10

30. The improvement of claim 29 wherein the heterogeneously branched ethylene polymer is a copolymer of ethylene and 1-octene.

Add
B5

08834050-044397